

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:)	
)	
Roland A. Wood)	Examiner: Shun K. Lee
)	
Serial No.: 09/800,366)	Group Art Unit: 2878
)	
Filed: March 06, 2001)	Docket: H0001512
)	
For: IMPROVED BOLOMETER OPERATION USING FAST SCANNING)	

APPELLANT'S REPLY BRIEF

Mail Stop Appeal Brief- Patents
 Commissioner for Patents
 P.O. Box 1450
 Alexandria, VA 22313-1450

Sir:

The Appellant hereby replies to the Examiner's Answer of November 30, 2009.

As pointed out by the Appellant in its Principal Brief, claim 1 recites "applying N bias pulses substantially sequentially during a time frame to each microbolometer in the array." Independent claims 14 and 27 recite a substantially similar feature. The portion of the '149 patent to Wood et al. cited by the Final Office Action as disclosing this claimed feature relates to a slider mechanism that moves a board across the focal plane of a lens of a thermal camera, thereby measuring an electrical signal in each pixel of the thermal camera. The Appellant respectfully submits that a lateral slide movement of a slider mechanism across the focal plane of a lens and over pixels does not disclose applying N bias signals during a time frame. The Appellant therefore respectfully submits that a *prima facie* case of obviousness does not exist for at least this reason, and respectfully seeks the withdrawal of the rejection of the claims.

Claim 1 further recites that the application of the N bias pulses results in a "temperature in each of the microbolometers . . . that is substantially uniform during the time frame . . . [and that] each bias pulse is 1/N times that of a single pulse suitable for

reading the array.” Independent claim 14 recites that the resulting temperature in each of the microbolometers due to the application of the N bias pulses is substantially uniform during the frame time. Independent claim 27 recites that the resulting temperature varies less than 1° Celsius. The Final Office Action contends that the ‘619 patent to Duvall discloses these features. The Appellant respectfully disagrees.

The section of the ‘619 patent cited by the Final Office Action relates only to using different wave shapes in a swept bias. The Appellant respectfully submits that there is no disclosure in the ‘619 patent of N bias pulses during a time frame, selecting the N bias pulses such that the resulting temperature in each of the microbolometers is substantially uniform during the time frame (or per claim 27 varies less than 1° Celsius), or that the time duration of each pulse is 1/N times that of a single pulse suitable for reading the array.

Since the ‘619 patent fails to disclose these features, the Appellant respectfully submits that for this additional reason, the Final Office Action has failed to establish a *prima facie* case of obviousness, and the Appellant respectfully seeks the reversal of the rejection of the claims.

Appellant’s Reply to the Response to Arguments in the Final Office Action

The Examiner’s Answer on page 14 addresses the Appellant’s argument that the Duvall reference does not disclose applying N bias pulses wherein the time duration of each pulse is 1/N times that of a single pulse suitable for reading the array. Specifically, the Final Office Action contends that the Appellant cannot show non-obviousness by attacking the references individually where the rejection is based on a combination of references. The Appellant respectfully disagrees.

First, the Appellant respectfully submits that it is not attacking the references per se, but merely responding to the interpretation of the references by the Final Office Action. Moreover, the combination of the references in this instance simply lacks all of the claimed features as pointed out above, and the Appellant is bringing that to the attention of the Board.

Second, the Supreme Court in *Graham* held that the obviousness analysis involves an examination of the scope and content of the prior art. The Supreme Court

reaffirmed this analysis in *KSR*. The Appellant respectfully submits that when it points out that the references of record do not contain a recited claim feature, that is part of the required analysis of the scope and content of the prior art. The Appellant further respectfully submits that this Supreme Court precedent cannot be altered by a lower court decision, the MPEP, or the practices of the Patent Office.

Third, the Final Office Action does not even contend that it would have been obvious to apply the N bias pulses such that the time duration of each pulse is 1/N times that of a single pulse suitable for reading the array. The Final Office Action merely states that it would have been obvious to adjust bias pulse waveform parameters in a given detector and design situation so as to minimize unwanted detector heating. The Appellant respectfully submits that this is not an allegation that it would have been obvious to adjust the pulse duration to 1/N times that of a single pulse for reading the array as is recited in claim 1. That is, a general teaching of varying waveform parameters does not render obvious the specifically claimed species of varying pulse duration by 1/N times that of a single pulse suitable for reading the array. Indeed, varying the pulse duration by the 1/N factor is an advance in the art that is not taught by, suggested by, or obvious in light of, the cited references. For at least this reason, the Final Office Action has failed to establish a *prima facie* case of obviousness, and the Appellant respectfully seeks the reversal of the rejection of the claims.

Claim 27 recites a circuit that applies N bias pulses to a microbolometer array such that the temperature of the microbolometers rises less than 1° C. The Appellant pointed out in its Principal Brief that the Duvall reference does not disclose such a circuit. The Examiner's Answer contends that the swept bias technique of Duvall results in minimizing unwanted detector heating. Being that as it may, the Appellant respectfully submits that a *technique* that minimizes detector heating is not a disclosure of a *circuit* that limits heating in an array of microbolometers to less than 1° C, nor does it render such a circuit obvious. The Appellant respectfully submits that for this additional reason, a *prima facie* case of obviousness has not been established for claim 27, and the Appellant respectfully seeks the reversal of the rejection of claim 27.

Conclusion

The Applicant respectfully submits that the claims are in condition for allowance, and respectfully requests the reversal of the rejections of claims 1-27 and 29-39.

Respectfully submitted,

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Date January 21, 2010

By

/ [Signature] /

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being filed using the USPTO's electronic filing system EFS-Web, and is addressed to: Mail Stop Amendment Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this 21st day of January, 2010.

DAWN M. POOLE

Name

/ [Signature] /

Signature